

PHT 54A: DOSAGE CALCULATIONS A

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	3
Hours:	3 lecture per week (36 total per quarter)
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Review basic mathematical functions as required for calculations of pharmaceutical dosages, temperatures, and measurements.
- Perform calculations and conversions utilizing metric, apothecary, household systems utilizing exact and approximate equivalents as appropriate.

Description

An introduction to the use of pharmaceutical measuring systems, with emphasis on the metric system and intersystem conversions. Intended for students in the Pharmacy Technician Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

- Utilize Roman numerals.
- Perform basic mathematical functions as needed for dosage calculations.
- Understand the systems of measurement used in dosage calculations.
- Perform conversions between and within the measurement systems used in dosage calculations.
- Read and write proper medical notation on the drug order.
- Interpret and compare information on drug labels.
- Calculate standard pediatric dosages.
- Use business math concepts to calculate insurance reimbursements for prescription.
- Manage pharmacy inventory.

Course Content

- Expression of Arabic numbers 1-1000 in Roman numerals, for use in prescription processing
 - Conversion of Roman and Arabic numerals
- Basic mathematical functions
 - Functions of adding, subtracting, multiplying and dividing whole numbers
 - Functions of adding, subtracting, multiplying and dividing fractions
 - Functions of adding, subtracting, multiplying and dividing decimals
 - Conversion of fractions, decimals, and ratios
 - Solving equations, utilizing fractions and decimals
- System of measurements

- Units of measurement and abbreviations of the metric system
- Units of measurement and abbreviations of the apothecary system
- Units of measurement and abbreviations of the household system
- Units of measurement and abbreviations of milliequivalents, units and international units
 - Calculating and converting equivalents
 - Apothecary, metric and household systems
 - Utilizing exact and approximate equivalents
 - Relationship between avoidupois system and other systems
 - Converting temperatures between Celsius and Fahrenheit
 - Temperature requirements for stability of dosage forms
 - Measuring time using the traditional and the 24 hour clock
 - Medical notation
 - Standard common medical abbreviations
 - Notation specifying dosage, route, and frequency of medication
 - Medication orders
 - Drug labels
 - Brand and generic names
 - Strengths
 - Forms
 - Total volume
 - Directions for mixing
 - Route of administration
 - Manufacturer name and lot number
 - Expiration date
 - Days supply
 - Daily dose calculations
 - Pediatric dosages
 - Young's Rule
 - Clark's Rule
 - Fried's Rule
 - Body weight method
 - BSA method
 - Alternate BSA method
 - Combination drugs calculation
 - Safe dosages
 - Calculations related to business
 - Overhead
 - Net profit, gross profit and mark up rate
 - Average wholesale price
 - Capitation fee
 - Pharmacy Inventory
 - Depreciation
 - Turn over rate
 - Pharmacy inventory days' supply

Lab Content

Not applicable.

Special Facilities and/or Equipment

- 4 function (simple) calculators.
- Software programs.

Method(s) of Evaluation

Objective exams
Quizzes
Problem set worksheets

Method(s) of Instruction

Lecture presentations and classroom discussion regarding topics

Small group recitation sessions to discuss concepts
Problem set overview and practice

Representative Text(s) and Other Materials

Ballington, Don, and Skye McKennon. Pharmacy Calculations for Technicians, 6th ed.. 2017.

Ballington, Don, and Robert Anderson. Pharmacy Practice for Technicians, 6th ed.. 2017.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

Weekly reading assignments from text, ranging from 15-25 pages per week, with written practice problems.

Discipline(s)

Pharmacy Technology